N60200.AR.008974
NAS CECIL FIELD
5090.3a

SITE ASSESSMENT REPORT BUILDING 190 TANKS G190A AND 190IR BASE REALIGNMENT AND CLOSURE UNDERGROUND STORAGE TANK AND ABOVEGROUND STORAGE TANK AND ABOVEGROUND STORAGE TANK GREY SITES NAS CECIL FIELD FL

10/1/1998

HARDING LAWSON ASSOCIATES

SITE ASSESSMENT REPORT

BUILDING 190, TANKS G190A AND 190RI

BASE REALIGNMENT AND CLOSURE

UNDERGROUND STORAGE TANK AND ABOVEGROUND STORAGE TANK GREY SITES

NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA

Unit Identification Code: N60200

Contract No.: N62467-89-D-0317/090

Prepared by:

Harding Lawson Associates
2590 Executive Center Circle, East
Tallahassee, Florida 32301

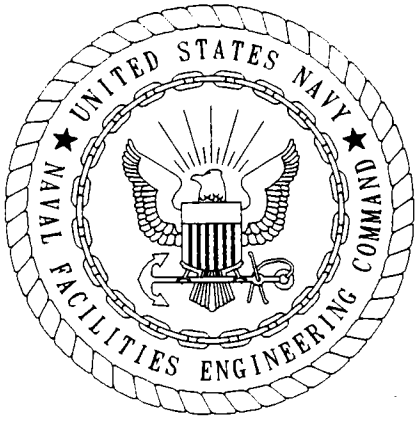
Prepared for:

Department of the Navy, Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
North Charleston, South Carolina 29418

Bryan Kizer, Code 1842, Engineer-in-Charge

October 1998

Revision 0.0



CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

The Contractor, Harding Lawson Associates, hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/090 are complete and accurate and comply with all requirements of this contract.

DATE: October 8, 1998

NAME AND TITLE OF CERTIFYING OFFICIAL: Rao Angara
Task Order Manager

NAME AND TITLE OF CERTIFYING OFFICIAL: Eric A. Blomberg, P.G.
Project Technical Lead

(DFAR 252.227-7036)

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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
AST	aboveground storage tank
bls	below land surface
CSR	confirmatory sampling report
FDEP	Florida Department of Environmental Protection
HLA	Harding Lawson Associates
KAG	Kerosene Analytical Group
OVA	organic vapor analyzer
SA	site assessment
TRPH	total recoverable petroleum hydrocarbons
UST	underground storage tank

1.0 INTRODUCTION

Harding Lawson Associates (HLA), under contract to the Southern Division, Naval Facilities Engineering Command, has completed the site assessment (SA) for Tanks G190A and 190RI at Naval Air Station Cecil Field in Jacksonville, Florida. This report summarizes the related field operations, results, conclusions, and recommendations of the SA.

Tank G190A is an aboveground storage tank (AST) located at Building 190, which was constructed as the Message Center and Telex Exchange for the Base (Figure 1). The AST, which was installed in 1991, has a 1,500-gallon capacity and is used to store diesel fuel for an emergency generator (ABB Environmental Services, Inc. [ABB-ES], 1997). Records indicate that the AST replaced Tank 190U, a 5,000-gallon diesel fuel underground storage tank (UST), but no tank closure information is available for the UST. Tank 190RI, a 1,000-gallon fuel oil UST, was located west of Tank G190A before it was removed in 1995 (Figure 2). A Contamination Assessment Plan for the assessment of soil and groundwater at Tank G190A was prepared by HLA (then ABB-ES) in November 1996 (ABB-ES, 1996). Results of the contamination assessment for Tank G190A are presented in the Confirmatory Sampling Report (CSR), which recommended that an additional SA be conducted to delineate the extent of excessively contaminated soil (ABB-ES, 1998).

2.0 FIELD INVESTIGATION

The SA for Tanks G190A and 190RI was initiated in October 1997 and included

- the advancement of twenty soil borings to the water table,
- collection and analysis of three subsurface soil samples.

Soil samples were collected from each boring at depth intervals of 1 foot below land surface (bls) and every 2 feet thereafter to the water table. These samples were screened for hydrocarbon vapors with an organic vapor analyzer (OVA).

Three subsurface soil samples were collected in May and September 1998 at soil boring locations with varying levels of contamination and analyzed for the Kerosene Analytical Group (KAG) parameters. Samples CEF-190-SB3 and CEF-190-SB5 were collected from 3 to 4 feet bls. A general site plan indicating the location of the soil borings is presented on Figure 2.

Groundwater flow direction could not be established at Building 190 because there is only one well present. However, groundwater flow direction has been inferred to be to the east because that is the flow direction of shallow groundwater at Building 46, which is approximately 400 feet to the south of Building 190.

3.0 SCREENING AND ANALYTICAL RESULTS

Excessively contaminated soil (greater than 50 parts per million on an OVA) was detected in seven soil borings advanced during the SA. The extent of excessively

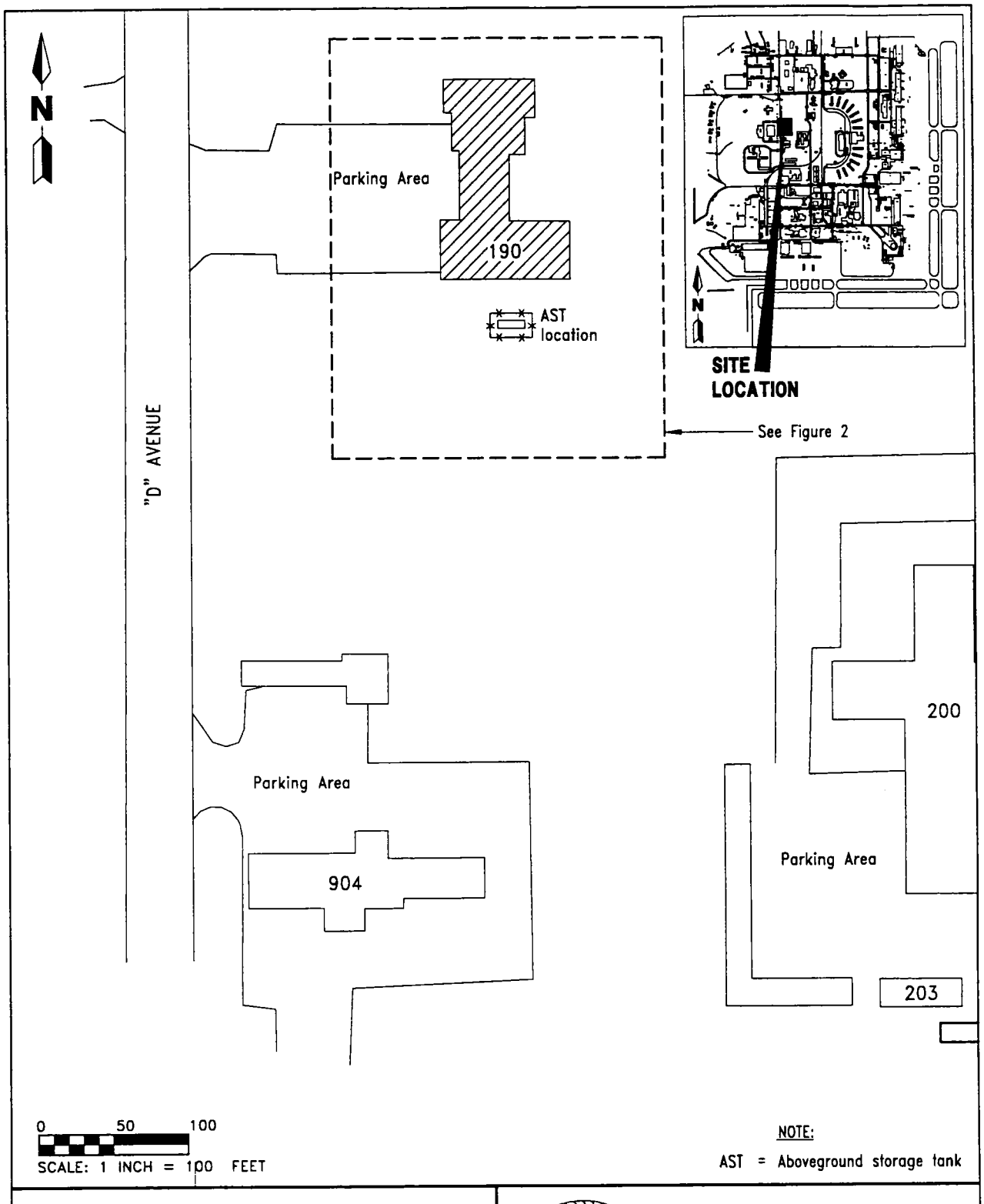

FIGURE 1
TANK G190A
TELEPHONE SERVICE BUILDING

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SITE ASSESSMENT REPORT
BUILDING 190, TANK G190A

NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

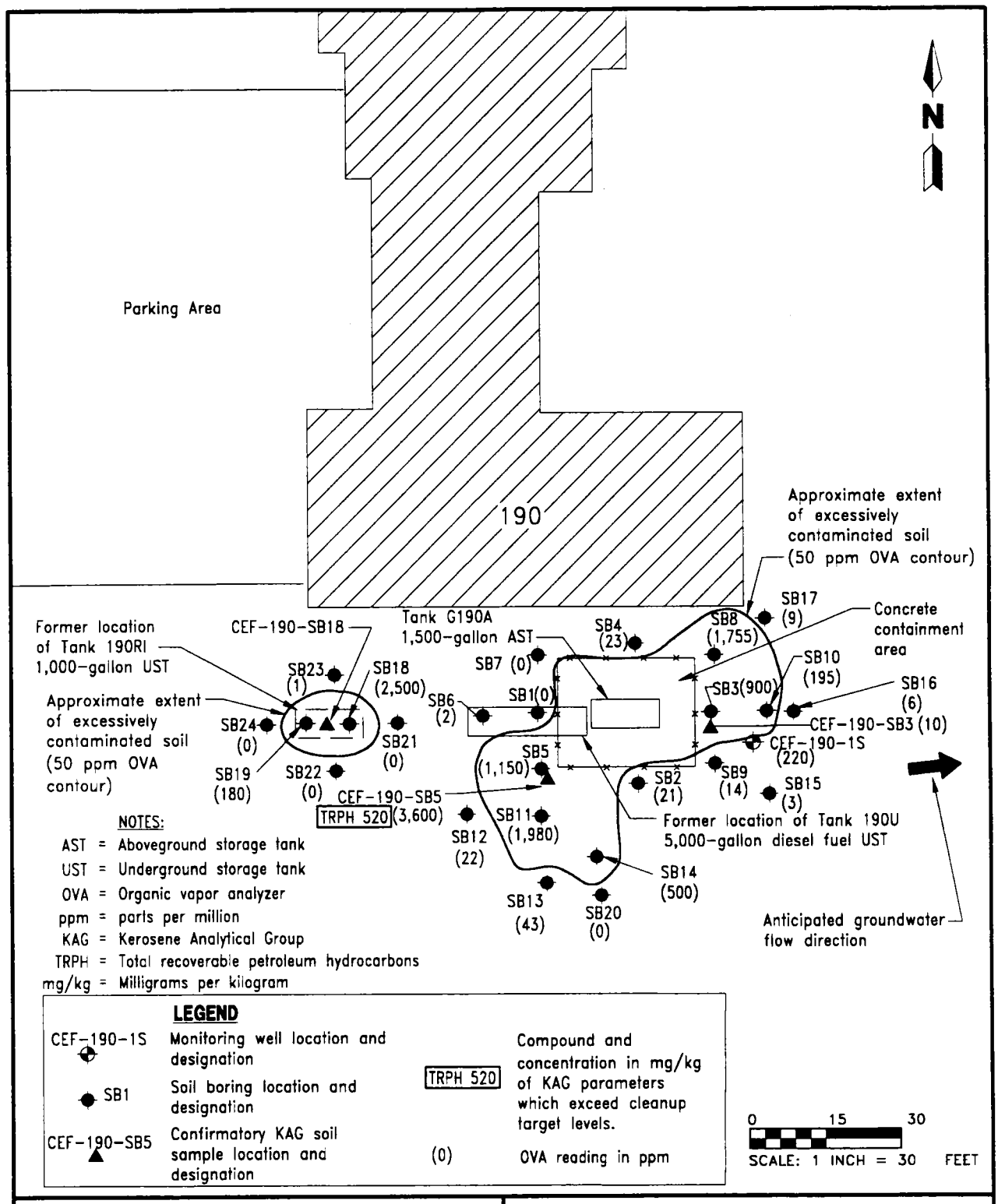

FIGURE 2
TANK G190A
SOIL BORING AND MONITORING WELL LOCATIONS

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SITE ASSESSMENT REPORT
BUILDING 190, TANK G190A

NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

contaminated soil is presented on Figure 2. The soil OVA data are summarized in Table 1.

Total recoverable petroleum hydrocarbons (TRPH) and benzo(a)pyrene were the only contaminants detected above Florida Department of Environmental Protection (FDEP) soil cleanup target levels in the subsurface soil samples collected for KAG analysis. Subsurface soil analytical results are summarized in Table 2 and presented in Appendix B.

No contaminants were detected above regulatory criteria in groundwater samples collected from the temporary monitoring well for Tank 190RI and monitoring well CEF-190-1S. Monitoring well construction detail for CEF-190-1S is located in Appendix A. Groundwater analytical results are summarized in Table 3 and presented in Appendix B.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Groundwater flow direction at Building 190 has been inferred to be to the east.

Data obtained during the SA at the Tanks G190A and 190RI sites provided an adequate assessment of the horizontal and vertical extent of excessively contaminated soil. TRPH and benzo(a)pyrene were the only KAG parameters detected in subsurface soil that exceeded FDEP cleanup target levels.

No contaminants were detected above the regulatory standard specified in Chapter 62-770, Florida Administrative Code, in the groundwater sample collected from monitoring well CEF-190-1S or the temporary monitoring well installed for Tank 190RI.

It is recommended that no further action take place at the Tank G190A site until the AST is removed. A soil source removal may be required at this time to remove contaminated soil which exceeds cleanup target levels.

It is recommended that no further action take place at the Tank 190RI site.

Table 1
Soil Screening Results

Site Assessment Report
Building 190, Tanks G190A and 190RI
Naval Air Station Cecil Field
Jacksonville, Florida

Location	OVA Concentration (ppm)			
	Depth (feet bls)	Unfiltered	Filtered	Actual
SB1	1	0	–	0
	3	0	–	0
	5 (wet)	310	0	310
SB2	1	0	–	0
	3	21	0	21
	5 (wet)	12	0	12
SB3	1	0	–	0
	3	900	0	900
	5 (wet)	240	0	240
SB4	1	0	–	0
	3	0	–	0
	5 (moist)	23	0	23
CEF-190-1S	1	0	–	0
	3	220	0	220
	5 (wet)	350	0	350
	11 (wet)	50	0	50
SB5	1	80	0	80
	3	1,200	50	1,150
	4.5 (wet)	>5,000	0	>5,000
SB6	1	0	–	0
	3	2	0	2
	3.5 (refusal)	–	–	–
SB7	1	0	–	0
	3	0	–	0
	5 (wet)	0	–	0
SB8	1	1,800	45	1,755
	3	0	–	0
	5 (wet)	60	0	60
SB9	1	0	–	50
	3	0	–	0
	4.5 (wet)	14	0	14
SB10	1	4	–	4
	3	210	15	195
	4.5 (wet)	480	440	40

See notes at end of table.

Table 1 (Continued)
Soil Screening Results

Site Assessment Report
Building 190, Tanks G190A and 190RI
Naval Air Station Cecil Field
Jacksonville, Florida

Location	OVA Concentration (ppm)			
	Depth (feet bls)	Unfiltered	Filtered	Actual
SB11	1	32	0	32
	3	2,000	20	1,980
	4.5 (wet)	500	28	472
SB12	1	22	--	22
	3	0	--	0
SB13	1	7	--	7
	3	43	--	43
SB14	1	3	--	3
	3	500	0	500
SB15	1	0	--	0
	3	3	--	3
SB16	1	6	--	6
	2.5	180	0	180
SB17	1	0	--	0
	3	9	--	9
SB18	1	36	--	36
	3	2,500	0	2,500
SB19	1	180	0	180
	3	60	0	60
SB20	1	0	--	0
	3	0	--	0
SB21	1	0	--	0
	3	0	--	0
SB22	1	0	--	0
	3	2	--	2

Notes: Soil samples were collected in February 1997, October 1997, and September 1998.
Soil samples were filtered with carbon to determine the methane concentration.

OVA = organic vapor analyzer.
ppm = parts per million.
bls = below land surface.
-- = readings were not collected.
wet = soil sample was completely saturated when analyzed.
moist = soil sample was partially saturated when analyzed.
refusal = subsurface obstruction encountered.

Table 2
Summary of Subsurface Soil Analytical Detections

Site Assessment Report
Building 190, Tanks G190A and 190RI
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	Soil Boring Sample Identification, Sample Depth, and OVA Concentration			Soil Cleanup Target Levels[1]
	CEF-190-SB3 (3 to 4 feet bls; OVA = 10 ppm)	CEF-190-SB5 (3 to 4 feet bls; OVA = 3,600 ppm)	CEF-190-SB18 (3 feet bls; OVA = 2,500 ppm)	
Volatile Organic Aromatics (USEPA Method 8020) (mg/kg)				
Xylenes	ND	0.017	ND	290/0.3
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310) (mg/kg)				
Benzo(a)anthracene	ND	0.110	0.570	1.4/2.9
Benzo(a)pyrene	ND	**0.150**	**0.220**	0.1/7.8
Benzo(b)fluoranthene	ND	0.130	0.410	1.4/9.8
Benzo(g,h,i)perylene	ND	0.085	ND	2,300/13,000
Benzo(k)fluoranthene	ND	0.052	0.034	15/25
Chrysene	ND	ND	0.360	140/80
Dibenz(a,h)anthracene	ND	0.066	0.035	0.1/14
Fluoranthene	ND	0.220	0.870	2,800/550
Indeno(1,2,3-cd)pyrene	ND	0.070	0.058	1.5/28
Phenanthrene	ND	ND	0.180	1,900/120
Pyrene	ND	0.410	ND	2,200/570
Total Recoverable Petroleum Hydrocarbons (TRPH) (FL-PRO) (mg/kg)				
TRPH	ND	**520**	110	350/340

[1] Chapter 62-770, Florida Administrative Code: Direct Exposure, Table I/Leachability, Table V.

Notes: Soil samples were collected on May 28 and September 14, 1998.
Bold indicates that the concentration exceeds Chapter 62-770, Florida Administrative Code, cleanup target level.

OVA = organic vapor analyzer.
bls = below land surface.
ppm = parts per million.
USEPA = U.S. Environmental Protection Agency.
mg/kg = milligrams per kilogram.
ND = not detected.
FL-PRO = Florida-Petroleum Residual Organics.

Table 3
Summary of Groundwater Analytical Detections

Site Assessment Report
Building 190, Tanks 190A and 190RI
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	Temporary Well for Tank 190RI	Monitoring Well CEF-190-1S	Groundwater Cleanup Target Levels[1]
Volatile Organic Aromatics (USEPA Method 601/602) (µg/ℓ)			
Methylene chloride	ND	2	NA
Polynuclear Aromatic Hydrocarbons (USEPA Method 610) (µg/ℓ)			
No compounds detected.			
Total Recoverable Petroleum Hydrocarbons (FL-PRO) (µg/ℓ)			
No compounds detected.			

[1] Chapter 62-770, Florida Administrative Code.

Notes: USEPA = U.S. Environmental Protection Agency.
µg/ℓ = micrograms per liter.
FL-PRO = Florida Petroleum Residual Organic.
ND = not detected.
NA = not applicable.

REFERENCES

ABB Environmental Services, Inc. (ABB-ES). 1996. *Contamination Assessment Plan, Naval Air Station Cecil Field, Jacksonville, Florida.* Prepared for Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), North Charleston, South Carolina (November).

ABB-ES. 1997. *Base Realignment and Closure Tank Management Plan, Naval Air Station Cecil Field, Jacksonville, Florida.* Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (January).

ABB-ES. 1998. *Confirmatory Sampling Report, Building 190, Tank G190A, Base Realignment and Closure, Underground Storage Tank and Aboveground Storage Tank Grey Sites, Naval Air Station Cecil Field, Jacksonville, Florida.* Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (April).

APPENDIX A

MONITORING WELL INSTALLATION DETAIL

TITLE: NAS Cecil Field	**LOG of WELL:** CEF-190-1S	**BORING NO.** CEF-190-1S
CLIENT: SOUTHDIVNAVFACENGCOM		**PROJECT NO:** 8542-03
CONTRACTOR: GEOTEK	**DATE STARTED:** 2-27-97	**COMPLTD:** 2-27-97
METHOD: 6.25" HSA	**CASE SIZE:** 2" / **SCREEN INT.:** 2-12	**PROTECTION LEVEL:** D
TOC ELEV.: FEET.	**MONITOR INST.:** FID / **TOT DPTH:** 13 FEET.	**DPTH TO ▽** 4.20 FEET.
LOGGED BY: J Koch	**WELL DEVELOPMENT DATE:** 3-4-97	**SITE:** Building 190

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	SILTY SAND: Dark brown, fine grain, no apparent petroleum odor.		SM	posthole	
				220	SILTY SAND: Brown, fine grain, no petroleum odor.			posthole	
5			80%	350	SILTY SAND: Brown, fine grain with wood roots and organics, no petroleum odor, saturated.			5,5,5,4	
10			100%	50	SILTY SAND: Light brown to dark brown, fine grain with rotten egg odor (sulfur).			1,1,1,1	
15									
20									

 ABB ENVIRONMENTAL SERVICES, INC.

APPENDIX B

ANALYTICAL DATA

NAS CECIL FIELD -- TANK G190
UST GREY ANALYTICAL PARAMETERS -- REPORT NO. 9418

Lab Sample Number:	B7C2701410				B7C2701410			
Site	BRACGREY				BRACGREY			
Locator	CEF1901S				CEF1901S			
Collect Date:	26-MAR-97				26-MAR-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
BRACGREY ANAYLTICAL PARAMETERS								
1,1,1-Trichloroethane	1	U	ug/l	1	-			
1,1,2,2-Tetrachloroethane	1	U	ug/l	1	-			
1,1,2-Trichloroethane	1	U	ug/l	1	-			
1,1-Dichloroethane	1	U	ug/l	1	-			
1,1-Dichloroethene	1	U	ug/l	1	-			
1,2-Dichlorobenzene	1	U	ug/l	1	-			
1,3-Dichlorobenzene	1	U	ug/l	1	-			
1,4-Dichlorobenzene	1	U	ug/l	1	-			
1,2-Dichloroethane	1	U	ug/l	1	-			
1,2-Dichloropropane	1	U	ug/l	1	-			
1-Methylnaphthalene	2	U	ug/l	2	-			
2-Methylnaphthalene	2	U	ug/l	2	-			
Acenaphthene	2	U	ug/l	2	-			
Acenaphthylene	2	U	ug/l	2	-			
Anthracene	2	U	ug/l	2	-			
Benzene	1	U	ug/l	1	-			
Benzo (a) anthracene	.1	U	ug/l	.1	-			
Benzo (a) pyrene	.1	U	ug/l	.1	-			
Benzo (b) fluoranthene	.1	U	ug/l	.1	-			
Benzo (g,h,i) perylene	.2	U	ug/l	.2	-			
Benzo (k) fluoranthene	.15	U	ug/l	.15	-			
Bromodichloromethane	1	U	ug/l	1	-			
Bromoform	1	U	ug/l	1	-			
Bromomethane	1	U	ug/l	1	-			
Carbon tetrachloride	1	U	ug/l	1	-			
Chlorobenzene	1	U	ug/l	1	-			
Chloromethane	1	U	ug/l	1	-			
Chloroform	1	U	ug/l	1	-			
Chloromethane	1	U	ug/l	1	-			
Chrysene	.1	U	ug/l	.1	-			
Dibenzo (a,h) anthracene	.2	U	ug/l	.2	-			
Dibromochloromethane	1	U	ug/l	1	-			
Dichlorodifluoromethane	1	U	ug/l	1	-			
Ethylbenzene	1	U	ug/l	1	-			
Ethylene dibromide	.02	U	ug/l	.02	-			
Fluoranthene	.2	U	ug/l	.2	-			
Fluorene	2	U	ug/l	2	-			
Indeno (1,2,3-cd) pyrene	.1	U	ug/l	.1	-			
Lead	5	U	ug/l	5	-			
Methyl tert-butyl ether	1	U	ug/l	1	-			
Methylene chloride	2		ug/l	1	-			
Naphthalene	2	U	ug/l	2	-			
Phenanthrene	2	U	ug/l	2	-			
Pyrene	.2	U	ug/l	.2	-			
Tetrachloroethene	1	U	ug/l	1	-			
Toluene	1	U	ug/l	1	-			
Total petroleum hydrocarbons	.5	U	mg/l	.5	-			
Trichloroethene	1	U	ug/l	1	-			
Trichlorofluoromethane	1	U	ug/l	1	-			
Vinyl chloride	1	U	ug/l	1	-			

NAS CECIL FIELD -- TANK G190
UST GREY ANALYTICAL PARAMETERS -- REPORT NO. 9418

Lab Sample Number:		B7C2701410				B7C2701410			
Site		BRACGREY				BRACGREY			
Locator		CEF1901S				CEF1901S			
Collect Date:		26-MAR-97				26-MAR-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	
Xylenes (total)		1 U	ug/l	1		-			
cis-1,3-Dichloropropene		1 U	ug/l	1		-			
trans-1,2-Dichloroethene		1 U	ug/l	1		-			
trans-1,3-Dichloropropene		1 U	ug/l	1		-			
Lead-DISS		-				5 U	ug/l	5	

U = NOT DETECTED J = ESTIMATED VALUE
UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED
R = RESULT IS REJECTED AND UNUSABLE

NAS CECIL FIELD -- TANK G190
SOIL DATA -- KEROSENE ANALYTICAL GROUP -- REPORT REQ NO. 10276

Lab Sample Number:	JR32141
Site	UST GREY
Locator	CEF-190-SB18
Collect Date:	14-SEP-98

	VALUE	QUAL	UNITS	DL
UST COMPOUNDS				
Benzene	120	U	ug/kg	120
Ethylbenzene	120	U	ug/kg	120
Toluene	120	U	ug/kg	120
m,p-Xylene	120	U	ug/kg	120
o-Xylene	120	U	ug/kg	120
1,1,1-Trichloroethane	120	U	ug/kg	120
1,1,2,2-Tetrachloroethane	120	U	ug/kg	120
1,1,2-Trichloroethane	120	U	ug/kg	120
1,1-Dichloroethane	120	U	ug/kg	120
1,1-Dichloroethene	120	U	ug/kg	120
1,2-Dichlorobenzene	120	U	ug/kg	120
1,2-Dichloroethane	120	U	ug/kg	120
1,2-Dichloropropane	120	U	ug/kg	120
1,3-Dichlorobenzene	120	U	ug/kg	120
1,4-Dichlorobenzene	120	U	ug/kg	120
Bromodichloromethane	120	U	ug/kg	120
Bromoform	120	U	ug/kg	120
Bromomethane	120	U	ug/kg	120
Carbon tetrachloride	120	U	ug/kg	120
Chlorobenzene	120	U	ug/kg	120
Chloroethane	240	U	ug/kg	240
Chloroform	120	U	ug/kg	120
Chloromethane	240	U	ug/kg	240
Dibromochloromethane	120	U	ug/kg	120
Dichlorodifluoromethane	120	U	ug/kg	120
Methylene chloride	240	U	ug/kg	240
Tetrachloroethene	120	U	ug/kg	120
Trichloroethene	120	U	ug/kg	120
Trichlorofluoromethane	240	U	ug/kg	240
Vinyl chloride	120	U	ug/kg	120
cis-1,3-Dichloropropene	120	U	ug/kg	120
trans-1,2-Dichloroethene	120	U	ug/kg	120
trans-1,3-Dichloropropene	120	U	ug/kg	120
1-Methylnaphthalene	170	U	ug/kg	170
2-Methylnaphthalene	170	U	ug/kg	170
Acenaphthene	170	U	ug/kg	170
Acenaphthylene	33	U	ug/kg	33
Anthracene	170	U	ug/kg	170
Benzo (a) anthracene	570		ug/kg	17
Benzo (a) pyrene	220		ug/kg	17
Benzo (b) fluoranthene	410		ug/kg	33
Benzo (g,h,i) perylene	33	U	ug/kg	33
Benzo (k) fluoranthene	340		ug/kg	17
Chrysene	360		ug/kg	17
Dibenzo (a,h) anthracene	35	J	ug/kg	33
Fluoranthene	870		ug/kg	33
Fluorene	33	U	ug/kg	33
Indeno (1,2,3-cd) pyrene	58		ug/kg	17
Naphthalene	170	U	ug/kg	170
Phenanthrene	180		ug/kg	17

NAS CECIL FIELD -- TANK G190
SOIL DATA -- KEROSENE ANALYTICAL GROUP -- REPORT REQ NO. 10276

	Lab Sample Number:	Site	Locator	Collect Date:
	JR32141	UST GREY	CEF-190-SB18	14-SEP-98
	VALUE QUAL	UNITS	DL	
Pyrene	17 U	ug/kg	17	
FLA PRO				
TPH C8-C40	110	mg/kg	8	

U = NOT DETECTED J = ESTIMATED VALUE
UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED
R = RESULT IS REJECTED AND UNUSABLE

NAS CECIL FIELD -- TANK 190RI
SOIL DATA -- KEROSENE ANALYTICAL GROUP -- REPORT REQ NO. 9959

	Lab Sample Number:	A8E2901780			A8E2901780		
	Site	UST GREY			UST GREY		
	Locator	CEF-190-SB3			CEF-190-SB5		
	Collect Date:	28-MAY-98			28-MAY-98		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
UST GREY							
Benzene		1.2 U	ug/kg	1.2	1.2 U	ug/kg	1.2
Ethylbenzene		1.2 U	ug/kg	1.2	1.2 U	ug/kg	1.2
Toluene		1.2 U	ug/kg	1.2	1.2 U	ug/kg	1.2
Xylenes (total)		1.2 U	ug/kg	1.2	17 J	ug/kg	1.2
Acenaphthene		250 U	ug/kg	250	1200 U	ug/kg	1200
Acenaphthylene		250 U	ug/kg	250	1200 U	ug/kg	1200
Anthracene		250 U	ug/kg	250	1200 U	ug/kg	1200
Benzo (a) anthracene		6.2 U	ug/kg	6.2	110	ug/kg	29
Benzo (a) pyrene		6.2 U	ug/kg	6.2	150	ug/kg	29
Benzo (b) fluoranthene		6.2 U	ug/kg	6.2	130	ug/kg	29
Benzo (g,h,i) perylene		6.2 U	ug/kg	6.2	85 J	ug/kg	29
Benzo (k) fluoranthene		6.2 U	ug/kg	6.2	52	ug/kg	29
Chrysene		25 U	ug/kg	25	120 U	ug/kg	120
Dibenzo (a,h) anthracene		6.2 U	ug/kg	6.2	66	ug/kg	29
Fluoranthene		6.2 U	ug/kg	6.2	220	ug/kg	29
Fluorene		250 U	ug/kg	250	1200 U	ug/kg	1200
Indeno (1,2,3-cd) pyrene		6.2 U	ug/kg	6.2	70	ug/kg	29
Naphthalene		250 U	ug/kg	250	1200 U	ug/kg	1200
Phenanthrene		250 U	ug/kg	250	1200 U	ug/kg	1200
Pyrene		6.2 U	ug/kg	6.2	410	ug/kg	29
FLA PRO							
TPH C8-C40		12 U	mg/kg	12	520	mg/kg	23

U = NOT DETECTED J = ESTIMATED VALUE
UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED
R = RESULT IS REJECTED AND UNUSABLE

NAS CECIL FIELD -- TANK 190
SOIL DATA -- KEROSENE ANALYTICAL GROUP -- REPORT REQ NO. 10276

Lab Sample Number:	JR32141
Site	UST GREY
Locator	CEF-190-SB18
Collect Date:	14-SEP-98

	VALUE	QUAL	UNITS	DL
UST COMPOUNDS				
Benzene	120	U	ug/kg	120
Ethylbenzene	120	U	ug/kg	120
Toluene	120	U	ug/kg	120
m,p-Xylene	120	U	ug/kg	120
o-Xylene	120	U	ug/kg	120
1,1,1-Trichloroethane	120	U	ug/kg	120
1,1,2,2-Tetrachloroethane	120	U	ug/kg	120
1,1,2-Trichloroethane	120	U	ug/kg	120
1,1-Dichloroethane	120	U	ug/kg	120
1,1-Dichloroethene	120	U	ug/kg	120
1,2-Dichlorobenzene	120	U	ug/kg	120
1,2-Dichloroethane	120	U	ug/kg	120
1,2-Dichloropropane	120	U	ug/kg	120
1,3-Dichlorobenzene	120	U	ug/kg	120
1,4-Dichlorobenzene	120	U	ug/kg	120
Bromodichloromethane	120	U	ug/kg	120
Bromoform	120	U	ug/kg	120
Bromomethane	120	U	ug/kg	120
Carbon tetrachloride	120	U	ug/kg	120
Chlorobenzene	120	U	ug/kg	120
Chloroethane	240	U	ug/kg	240
Chloroform	120	U	ug/kg	120
Chloromethane	240	U	ug/kg	240
Dibromochloromethane	120	U	ug/kg	120
Dichlorodifluoromethane	120	U	ug/kg	120
Methylene chloride	240	U	ug/kg	240
Tetrachloroethene	120	U	ug/kg	120
Trichloroethene	120	U	ug/kg	120
Trichlorofluoromethane	240	U	ug/kg	240
Vinyl chloride	120	U	ug/kg	120
cis-1,3-Dichloropropene	120	U	ug/kg	120
trans-1,2-Dichloroethene	120	U	ug/kg	120
trans-1,3-Dichloropropene	120	U	ug/kg	120
1-Methylnaphthalene	170	U	ug/kg	170
2-Methylnaphthalene	170	U	ug/kg	170
Acenaphthene	170	U	ug/kg	170
Acenaphthylene	33	U	ug/kg	33
Anthracene	170	U	ug/kg	170
Benzo (a) anthracene	570		ug/kg	17
Benzo (a) pyrene	220		ug/kg	17
Benzo (b) fluoranthene	410		ug/kg	33
Benzo (g,h,i) perylene	33	U	ug/kg	33
Benzo (k) fluoranthene	340		ug/kg	17
Chrysene	360		ug/kg	17
Dibenzo (a,h) anthracene	35	J	ug/kg	33
Fluoranthene	870		ug/kg	33
Fluorene	33	U	ug/kg	33
Indeno (1,2,3-cd) pyrene	58		ug/kg	17
Naphthalene	170	U	ug/kg	170
Phenanthrene	180		ug/kg	17

NAS CECIL FIELD -- TANK 190
SOIL DATA -- KEROSENE ANALYTICAL GROUP -- REPORT REQ NO. 10276

	Lab Sample Number:	Site	Locator	Collect Date:	VALUE	QUAL	UNITS	DL
	JR32141	UST GREY	CEF-190-SB18	14-SEP-98				
Pyrene					17	U	ug/kg	17
FLA PRO								
TPH C8-C40					110		mg/kg	8

U = NOT DETECTED J = ESTIMATED VALUE
UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED
R = RESULT IS REJECTED AND UNUSABLE

FIRST COAST ENVIRONMENTAL LABORATORY, INC.

November 27, 1995

Innovative Services International, Inc.
P.O. Box 150016
Jacksonville, FL 32215

Attn: Ron Boardman

Reference: FCEL Lab #9511-53
Cecil Field (Building 190 - 1195)
Sample collected 1600 hr. on 11-02-95
Sample received 0939 hr. on 11-02-95
(1) H_2O from Temp. Well

PARAMETER		METHOD	± 1	DATE/TIME	ANALYST
Lead	mg/L	EPA 239.2	0.00938	11-6/1417	AWW

Respectfully submitted:

Adolph W. Wollitz
Laboratory Director
FHRS Lab #E82102
FHRS Lab #82110
EPA #FL00062
DEP Comp QAPP # 870222G

AWW/tb

8818 Arlington Expressway • Jacksonville, Florida 32211
(904) 725-4847 • Fax (904) 725-2215

FIRST COAST ENVIRONMENTAL LABORATORY, INC.

November 27, 1995

Client: I.S.I.

Sample I.D.: Building 190 - 1195 (Cecil Field)

Sample Matrix: Liquid

Lab #: 9511-53

Date Received: 11-3-95

Date Completed: 11-9-95

Sample Collection: 11-2-95

Analytical Summary

Parameter		Method	Results
TRPH	mg/L	EPA 418.1	< 0.020

Respectfully submitted,

Barry C. Byrd, Jr., MS
Laboratory Director
DEP Comp QAPP # 870222G

BCB/tb

8818 Arlington Expressway • Jacksonville, Florida 32211
(904) 725-4847 • Fax (904) 725-2215

FIRST COAST ENVIRONMENTAL LABORATORY, INC.

November 27, 1995

Client: I.S.I.
Sample I.D.: Building 190 - 1195 (Cecil Field)
Sample Matrix: Liquid

Lab #: 9511-53
Date Received: 11-3-95
Date Completed: 11-14-95
Sample Collection: 11-2-95

Analytical Summary
Volatile Hydrocarbons
Method 601 - 602

Parameter	Results ug/L	Parameter	Results ug/L
Benzene	ND	Bromobenzene	ND
Bromodichloromethane	ND	Bromomethane	ND
Bromoform	ND		
Chloroethane	ND	Carbon tetrachloride	ND
Carbon tetrachloride	ND	Chlorobenzene	ND
Chloroform	ND	Chloromethane	ND
2-Chlorotoluene	ND	4-Chlorotoluene	ND
2-Chloroethylvinyl ether	ND		
Dibromochloromethane	ND	1,2-Dibromoethane	ND
Dibromomethane	ND	1,2 Dichlorobenzene	ND
1,3 Dichlorobenzene	ND	1,4 Dichlorobenzene	ND
Dichlorodifluoromethane	ND	1,1-Dichloroethane	ND
1,2-Dichloroethane	ND	1,1-Dichloroethene	ND
tr-1,2-Dichloroethene	ND	Dichloromethane	ND
1,2-Dichloropropane	ND	t-1,3-Dichloropropene	ND
Ethyl Benzene	ND		
1,1,1,2-Tetrachloroethane	ND	1,1,2,2-Tetrachloroethane	ND
Tetrachloroethene	ND	Toluene	ND
1,1,1-Trichloroethane	ND	1,1,2-Trichloroethane	ND
Trichloroethene	ND	Trichlorofluoromethane	ND *
1,2,3-Trichloropropane	ND		
Vinyl Chloride	ND *	MTBE	ND *
Total Xylenes	ND		

Note: ND = (None detected. lower detectable limit = 1 ug/L)
ND * = (None detected. lower detectable limit = 20 ug/L)
J = (Peak detected. below detection limit. value suspect)
B = (This parameter also found in the blank)
NA = (This parameter was not analyzed)

Respectfully submitted,

Barry C. Byrd, Jr., MS
Technical Director
DEP Comp QAPP # 870222G

BCB/tb

8818 Arlington Expressway • Jacksonville, Florida 32211
(904) 725-4847 • Fax (904) 725-2215

FIRST COAST ENVIRONMENTAL LABORATORY, INC.

November 27, 1995

Client: I.S.I.
Sample I.D.: Building 190 - 1195 (Cecil Field)
Sample Matrix: Liquid

Lab #: 9511-53
Date Received: 11-3-95
Date Completed: 11-14-95
Sample Collection: 11-2-95

Polynuclear Aromatic Hydrocarbons
EPA Method 610

PARAMETER	RESULTS
Acenaphthene	ND
Acenaphthylene	ND
Anthracene	ND
Benzo (a) anthracene	ND
Benzo (a) pyrene	ND
Benzo (b) fluoranthene	ND
Benzo (ghi) perylene	ND *
Benzo (j) fluoranthene	ND
Benzo (k) fluoranthene	ND
Chrysene	ND
Dibenzo (a,h) anthracene	ND *
Fluoranthene	ND
Fluorene	ND
Indeno (1,2,3-cd) pyrene	ND *
1-Methylnaphthalene	ND
2-Methylnaphthalene	ND
Naphthalene	ND
Phenanthrene	ND
Pyrene	ND

Note: ND = (None detected. lower detectable limit = 5 ug/L)
ND ** = (None detected. lower detectable limit - 25 ug/L)
J = (Peak detected. below detection limit. value suspect)
B = (This parameter also found in the blank)
NA = (This parameter was not analyzed)

Respectfully submitted,

Barry C. Byrd, Jr., MS
Technical Director
DEP Comp QAPP # 870222G

BCB/tb

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